

ABSTRACT

The present invention relates to a forced-air electric heater control system for HVAC systems. One embodiment utilizes two heat sensors which are positioned upstream and downstream, equidistant from the heating element(s). The control system, in this embodiment, takes the difference between the temperature signals, thereby eliminating any radiant heat factor, and the resulting signal is used to control the heater. In other embodiments, the method senses upstream and downstream temperatures, determines air velocity in the duct, determines the amount kilowatts (KW) or other heat per unit time or power based thereon, and enables the power control switch when the resultant is less than a predetermined value. Alternate systems initially test for air velocity by application of nominal power, and then use the measured velocity and the downstream temperature to obtain a control signal for the heater. A pressure differential may be used. The systems compensate for radiant heat factor.

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